

REMARKSI. Introduction

The specification has been amended to correct a numbering error identified by the Examiner and to properly claim the benefit of the filing date of a parent application and a provisional application.

In the Office Action the Examiner rejected original claims 1-32 based on various prior art references including: U.S. Patent No. 5,479,488 to Lenning et al., U.S. Patnet No. 5,309,504 to Morganstein, U.S. Patent No. 5,450,476 to D'Apuzzo et al., U.S. Patent No. 5,901,209 to Tannenbaum; and U.S. Patent No. 4,907,247 to Nomura et al.

Claims 11-15 and 26-32 have been canceled, claim 1-8, 16-20 and 22-24 have been amended, and new claims 33-35 have been added. Accordingly, **claims 1-10, 16-25 and 33-35 are now pending.** A full set of the pending claims, as amended, is included in this response.

II. The Present Invention and The Prior ArtA. Novel Implementation of Automated and Manned Operator Positions Using, For Example, A Single Workstation

The present invention is directed to methods and apparatus for efficiently providing services to telephone subscribers through the use of automated operator positions. This is done by using hardware used to support a manned operator position to implement an automated operator

position at the same time a manned operator position is supported, or at times when a human is not available to use the operator workstation of the present invention. In this manner operator hardware is used in a productive manner whether or not a human operator is present.

In accordance with the present invention, **an operator position is automated**. The automated operator position is used to service a telephone call, e.g., collect information, perform look-up operations, etc. In many cases, the automated operator position interacts with manned operator positions, e.g., a call is transferred from an automated operator position to a manned operator position in the same manner a call is transferred between two live operators via a telephone switch. **Both manned and automated operator positions are identified to a switch by an operator position identifier.**

Operator positions interact with a telephone switch via an operator interface and are frequently controlled by an operator position controller within the switch. Operator positions may be active at some times and inactive at others. Accordingly, for purposes of operator position management, operator positions are normally required to loggin to a switch so that the switch knows when the position is active and can be used to service a call. for purposes of identifying and distinguishing between different operator positions, switches use operator position identifiers to identify the different operator positions. Bill commands and other types of commands can be issued from an active operator position for processing by the switch.

Billing commands can not normally be issued by switch peripheral devices.

Telephone switch peripheral devices such as automated voice processing and speech recognition systems, such as the system 14A shown in Lenning et al. patent, audio response unit 112 and voice mail system 114 shown in the D'Apuzzo et al. patent, are generally NOT assigned operator identifiers and do NOT interact with a telephone switch as an operator position or by way of an operator position interface. For example, the Lenning et al. patent clearly teaches away treating the automated voice processing and speech recognition system 14A as an operator position by showing it interfaced with the switch via the switch network 12 as opposed to the operator position controller 23.

B. Novel Restaurant & Directional Service

In addition to the novel automated operator workstation features of the invention, the invention is also directed to novel services which can be provided in either a fully or partially automated manner, e.g., using an automated operator position of the invention.

In accordance with one feature of the present invention a caller is provided information on restaurants in the caller's vicinity and/or directions between the caller's location and a destination location. In both services, the caller does not need to know his/her current location or the location to which he/she is going. In accordance with the present invention caller automatic number identification information (ANI) is used to determine the caller's location.

In the case of providing restaurant information, after performing an ANI database look-up operation to determine the caller's location a restaurant database look-up operation is performed to identify restaurants in the caller's vicinity. The caller is then provided with information on one or more restaurants in his/her vicinity.

In the case of providing directions, the caller is prompted for a telephone number corresponding to his/her destination. After determining the callers current location using ANI information, and destination location determined by using the received telephone number in a line information look-up operation, a data base of directional information is accessed and the caller is provided directions to the destination indicated by the provided telephone number.

Nothing in the prior art cited by the Examiner disclose or anticipates the novel combination of steps in the current claims.

III. The Pending Claims Are Patentable

1. Claims 1-10

The "automated device" cited by the Examiner in the Lenning et al. patent is an automated voice processing & speech recognition system 14A which is NOT an operator position. This is clear from the fact that it is NOT controlled by the operator position controller 23 and is not labeled "operator position 24" as are all the other described operator positions. Furthermore, there is nothing

in the Lenning et al. patent which describes element 14A being identified to a switch by an **operator position identifier** as recited in claim 1. The other references when considered alone or in combination with the Lenning et al. patent fail to make up for the deficiencies of the applied reference.

Claim 1 is patentable because it recites:

A telephone call processing method, comprising the steps of:

operating a call processing device to provide an **automated operator position identified by a first operator position identifier**;

operating a telephone switch, coupled to said call processing device, to provide a call, requesting information, to the automated operator position identified by said first operator position identifier; and

wherein the step of operating a call processing device to provide an automated operator position includes:

i. operating the call processing device to collect call related information in an automated manner;

ii. operating the call processing device to transmit a call transfer instruction to the switch to cause the switch to transfer the call to a manned operator position for additional call processing, the manned operator position being identified to the switch by a **second operator position identifier**; and

iii. operating the call processing device to transfer at least some of the collected call related information collected in an automated manner to the manned operator position.

Accordingly, claim 1, and claims 2-10 which depend there from, are patentable over the applied prior art of record.

2. Dependent Claim 2

Claim 2 is patentable for the additional reason that none of the applied prior art references teach, disclose or suggest using a single device to serve both as a manned operator position and an automated operation position identified to a switch by different operator position identifiers, at the same time.

Accordingly, claim 2 is patentable for the additional reason that it recites, in pertinent part:

operating said call processing device to provide a manned operator position at the same time as it provides said automated operator position, the manned operator position being identified to the switch by a different operator position identifier than said first operator position identifier.

3. Claims 16-18 and 23-25

Claim 16, as amended recites a specific procedure for providing information to a caller about multiple businesses near the caller's location. The Morganstein patent describes a system where calling party information is used to retrieve data records associated with the calling party so that the attendant has displayed on a data terminal screen appropriate information concerning the calling party's business or transaction. (See, col. 5, 41-55) This in no way anticipates or renders obvious the present invention which relates to obtaining and providing to the

caller information on multiple businesses in the vicinity of the calling party's location as determined from ANI information.

Applicants note that with regard to claim 23 the Examiner contends that some references such as Lenning et al. (Col. 7, lines 29-34) teach database look-up operations for businesses such as insurance companies. Applicants note that in Lenning et al. the look-up operation is for a specific business telephone number requested by a caller. Furthermore, if successful the look-up does NOT provide information on multiple businesses to the caller but provides the telephone number of the specific business for which the caller was requesting information.

A telephone number directory look-up operation in no way anticipates or renders obvious the method of providing business information for a specific geographic area determined from ANI location information as recited in claim 16.

Accordingly claim 16 is patentable over the prior art of record because it recites:

A method of providing information to a caller, comprising the steps of:
receiving a call at a telephone switch;
connecting the call to an automated call processing device coupled to the switch;
operating the automated call processing device to perform a line information database look-up operation using automatic number identification information provided by the switch;

performing a business directory database look-up operation using location information returned from said line information database look-up operation to identify multiple businesses near the location of the caller; and

providing, to the caller, information on multiple businesses near the location of the caller obtained from the business directory database look-up operation.

In view of the above, it is respectfully submitted that claim 16 and claims 17-18 and 23-25 which depend therefrom are patentable over the prior art of record.

4. Claims 19-22

Claim 19 is directed to a novel method of providing directional information to a caller based on ANI information obtained from the call, a destination telephone number indicating a desired destination, and a directional database look-up operation.

The Nomura et al. patent cited by the Examiner in regard to claim 21 describes providing map information in response to speech input. Applicant's representative is unaware of any discussion in the Norma patent of generating directions based on a caller's location determined from ANI information and a destination location determined by performing a line information database look-up operation. The Morganstein and Lenning et al. patents also fail to anticipate or render obvious these features of claim 19.

Accordingly, claim 19 is patentable because it recites:

A method of providing information to a caller, comprising the steps of:
 receiving a call at a telephone switch;
 connecting the call to an automated call processing device coupled to the switch;
 operating the automated call processing device to determine the location of the caller using automatic number identification information provided by the switch;
 receiving from the caller a telephone number corresponding to a destination which the caller is trying to reach;
 performing a database look-up operation, using the telephone number information received from the caller, to determine the address corresponding to the provided telephone number;
 performing a directional information database look-up operation to determine a route from the location of the caller to the destination; and
 providing direction information to the caller.

Claims 20-22 are patentable for the same reasons claim 19 is patentable.

IV. Request For Clarification

Many of the claims have been amended to recite specific steps and combinations of steps. As discussed above, steps like telephone number look-up operations based on spoken information provided by a caller differ significantly from look-up operations based on location information obtained using telephone switch provided ANI information.

Applicants request that if the Examiner persists in rejecting any of the claims that the Examiner identify where in the prior art each of the specific steps recited in the claims is disclosed. If the Examiner contends that other steps which are not the same as the specific steps recited in the claims render the claims obvious, it is requested that the Examiner submit an affidavit setting forth the personal knowledge upon which the obviousness rejection is based so that applicants can have a full and fair opportunity to respond to any rejections.

IV. Conclusion

Claims 1-10, 16-25 and 33-35 are directed to new, useful and non-obvious subject matter. Accordingly, the application is now in condition for allowance. Such allowance is respectfully requested.

The Examiner is invited to contact Applicants' undersigned representative by telephone if any outstanding issues remain which need to be resolved to place the application in condition for allowance.

Respectfully submitted,


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Appendix A

**(Amendments to Specification and Claims With Revisions
Shown)**

IN THE SPECIFICATION:

The Related Applications section found on page 1, lines 3-11 has been changed as follows:

[The present application is a continuation-in-part of pending patent application S.N. _____, filed September 16, 1998, entitled "METHODS AND APPARATUS FOR SERVICING DIRECTORY ASSISTANCE CALLS REQUESTING NON-PUBLISHED NUMBER INFORMATION" which is a continuation-in-part of pending U.S. provisional patent application S.N. 60/059,081, entitled Automated Operator Workstation, Features, Architecture and Applications which was filed on] This application is a continuation-in-part of pending U.S. Patent Application S.N. 09/154,014, filed September 16, 1998, which claims the benefit of U.S. Provisional Application No. 60/059,081, filed September 16, 1997.

On page 23, please replace the paragraph beginning on line 26 with:

The application switch 304 is used primarily for routing of audio information and for interfacing with the speech platform 330 [327] via the third T1

link 327. The application switch provides audio connectivity between the DMS 106 and speech platform 330 so that prompts and other audio information generated by the speech platform 330 can be relayed to the caller and so that speech input can be received by the speech platform from the caller. The fourth T1 link 229 is provided for coupling the application switch 304 to a manned operator workstation, e.g., via a channel bank. Thus, the fourth T1 link 229 provides a means of sending audio information, e.g., recorded compressed silenced removed speech, to a human operator to which a call is transferred.

Redlined Version of Amended Claims

- 1 1. (Amended) A telephone call processing method, comprising
2 the steps of:

3 operating a call processing device to provide an
4 automated operator position identified by a first operator
5 position identifier;

6 operating a telephone switch, coupled to said call
7 processing device, to provide a call, requesting
8 information, to the automated operator position identified
9 by said first operator position identifier[an automated call
10 processing device, coupled to the switch, which serves as an
11 automated operator position]; and

12 wherein the step of operating a call processing
13 device to provide an automated operator position includes:

14 i. operating the [automated] call processing
15 device to collect call related information in an
16 automated manner;

17 ii. operating the [automated] call processing
18 device to transmit a call transfer instruction to
19 the switch to cause the switch to transfer the
20 call to a [second] manned operator position for
21 additional call processing, the manned operator
22 position being identified to the switch by a
23 second operator position identifier; and [to
24 transfer]
25 iii. operating the call processing device to
26 transfer at least some of the collected call
27 related information collected in an automated
28 manner to the manned operator position [second
29 operator position].

1 2. (Amended) The method of claim 1, wherein said call
2 processing device is an operator workstation, the method
3 further comprising the step of:

4 operating said call processing device to provide a
5 manned operator position at the same time as it provides
6 said automated operator position, the manned operator
7 position being identified to the switch by a different
8 operator position identifier than said first operator
9 position identifier

10 [underlying text]
11 [operating the automated call processing device to
12 perform a speech recognition operation on speech received
from the caller].

1 3. (Amended) The method of claim [2] 1, wherein operating
2 the call processing device to provide an automated operator
3 position further [comprising the step of] comprises:
4 performing a speech recognition operation on
5 speech received from the caller; and
6 prompting the caller for city and listing information.

1 4. (Amended) The method of claim [2] 3, further comprising
2 the step of:

3 using the results of the speech recognition operation
4 to initiate a database look-up operation.

1 5. (Amended) The method of claim 4, wherein the collected
2 call related information transferred to the [second] manned
3 operator position includes at least some data returned to
4 the [automated] call processing device in response to the
5 database look-up operation, the step of transferring at
6 least some data to the second operator position including
7 the step of transmitting data from the [automated] call
8 processing device to the [second] manned operator position
9 over a data link, that is separate from the telephone
10 switch, which couples the automated call processing device
11 to the second operator position.

1 6. (Amended) The method of claim 5, wherein the transfer of
2 at least some of the collected call related information is
3 performed in response to a signal from the [second] manned
4 operator position.

1 7. (Amended) The method of claim 1, wherein the transfer of
2 at least some of the collected call related information is
3 performed in response to a signal from the [second] manned
4 operator position.

1 8. (Amended) The method of claim 5, further comprising the
2 step of:

3 recording at least some audio information provided
4 by [the] a caller to the [automated] call processing device;
5 and

6 wherein the collected call related information
7 transferred to the [second] manned operator position
8 includes recorded audio information.

1 9. The method of claim 8, further comprising the step of:
2 processing audio information provided by the
3 caller to remove silence therefrom prior to recording.

1 10. The method of claim 9, further comprising the step of:
2 performing compression on the audio information
3 provided by the caller prior to recording.

1 16. (Amended) A method of providing information to a caller,
2 comprising the steps of:
3 receiving a call at a telephone switch;
4 connecting the call to an automated call
5 processing device coupled to the switch;
6 operating the automated call processing device to
7 perform a [first] line information database look-up
8 operation using automatic number identification [call]
9 information provided by the switch;
10 performing a business directory database look-up
11 operation using location information returned from said line
12 information database look-up operation to identify multiple
13 businesses near the location of the caller; and
14 providing, to the caller, information on multiple
15 businesses near the location of the caller obtained from the
16 business directory database look-up operation [using the
17 results of the first database look-up operation to the
18 caller].

1 17. (Amended) The method of claim 16,
2 wherein the automated call processing device is an
3 unmanned device;

4 [wherein the call information is automated number
5 identification information; and]

6 wherein the [first] business directory database
7 look-up operation is a restaurant listing [an automated
8 number identification] look-up operation which returns
9 information on multiple restaurants near the location from
10 which the call was placed.

1 18. (Amended) The method of claim 17, further comprising
2 [the steps of]:

3 performing a text to speech operation to convert
4 returned text information into speech [second database
5 look-up operation; and

6 wherein the step of providing information to the
7 caller, includes the step of providing to the caller
8 information generated from information returned to the
9 automated device in response to the first and second look-up
10 operations].

1 19. (Amended) [The method of claim 18, further comprising
2 the step of:] A method of providing information to a caller,
3 comprising the steps of:

4 receiving a call at a telephone switch;
5 connecting the call to an automated call
6 processing device coupled to the switch;
7 operating the automated call processing device to
8 determine the location of the caller using automatic number
9 identification information provided by the switch;

10 receiving from the caller a telephone number
11 corresponding to a destination which the caller is trying to
12 reach; [, the]

13 performing a [second] database look-up operation,
14 [being performed] using the telephone number information

15 received from the caller, to determine the address
16 corresponding to the provided telephone number;
17 performing a directional information database
18 look-up operation to determine a route from the location of
19 the caller to the destination; and
20 providing direction information to the caller.

1 20. (Amended) The method of claim [17] 19, [further
2 comprising the steps of:
3 performing a second database look-up operation
4 using telephone number information provided by the caller
5 corresponding to a telephone located at a destination to
6 which the caller is seeking directions; and]
7 wherein the step of providing direction information to
8 the caller, includes performing a text to speech
9 operation[the step of providing to the caller information
10 returned to the automated device in response to the second
11 look-up operation].

1 21. The method of claim 20, wherein the step of providing
2 information to the caller includes the step of faxing
3 directions to a telephone number specified by the caller.

1 22. (Amended) The method of claim [18] 19, wherein the
2 automated call processing device is an automated operator
3 workstation, the method further comprising:
4 operating the automated operator workstation to loggin
5 to the switch using an operator position identifier prior to
6 performing the step of connecting the call[second look-up
7 operation is a directional database look-up operation].

1 23. (Amended) The method of claim 18, wherein the automated
2 call processing device is an automated operator workstation,
3 the method further comprising:

4 operating the automated operator workstation to loggin
5 to the switch using an operator position identifier prior to
6 performing the step of connecting the call [second look-up
7 operation is a restaurant database look-up operation].

1 24. (Amended) The method of claim 18, wherein the step of
2 performing a text to speech operation includes [providing
3 information obtained using the results of the first database
4 look-up operation to the caller includes the step of]:

5 [u]s[ing] operating a text to speech device coupled
6 to the automated device and to the switch to provide [audio]
7 information in the form of speech to the caller.

1 25. (Amended) The method of claim 18, wherein the step of
2 performing a text to speech operation includes [providing
3 information obtained using the results of the first database
4 look-up operation to the caller includes the step of]:

5 [u]s[ing] operating a text to speech device included
6 in the automated device to provide [audio] information to
7 the caller.

1 --33. A telephone system, comprising the steps of:
2 a call processing device including means for
3 providing an automated operator position identified by a
4 first operator position identifier;
5 a telephone switch, coupled to said call
6 processing device, for providing a call requesting
7 information, to the automated operator position identified
8 by said first operator position identifier; and
9 the call processing device including:
10 i. means for collecting call related information
11 in an automated manner;
12 ii. means for transmitting a call transfer
13 instruction to the switch to cause the switch to

14 transfer the call to a manned operator position
15 for additional call processing, the manned
16 operator position being identified to the switch
17 by a second operator position identifier; and
18 iii. means for transferring at least some of the
19 collected call related information collected in an
20 automated manner to the manned operator position.

1 34. The system of claim 33, wherein said call processing
2 device is an operator workstation, the call processing
3 device further including:

4 means for providing a manned operator position at the
5 same time as it provides said automated operator position,
6 the manned operator position being identified to the switch
7 by a different operator position identifier than said first
8 operator position identifier.

1 35. The system of claim 34, wherein said call processing
2 device further includes:

3 means for logging onto said switch using said
4 first operator position identifier;

5 means for logging out from said switch using said
6 first operator position identifier; and

7 means for detecting when a human operator is
8 present at said operator workstation and for initiating a
9 logging onto the switch using the second operator position
10 identifier in response to detecting that a human operator is
11 present.--

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